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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,146	07/13/2005	Guy Baret	124521	9784

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EXAMINER	
TAI, XIUYU	
ART UNIT	**PAPER NUMBER**
1795	
MAIL DATE	**DELIVERY MODE**
07/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,146	BARET ET AL.	
	Examiner	Art Unit	
	Xiuyu Tai	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-19 and 22-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-19 and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/4/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/4/2009 has been entered.

Response to Arguments

2. Newly filed IDSs are considered and have been placed in the record.

3. Due to applicant's amendment, some rejections under the first and second paragraphs of 35 U.S.C. 112 are withdrawn. However, rejections to claims 15 and 16 under the first paragraphs of 35 U.S.C. 112 will be maintained since "an embossment" has no support from the instant specification. The bump in connector 11 of Figure 1 appears to be a raised/bending portion in the drawing.

4. Applicant's arguments with respect to claims 14-19 and 22-27 have been considered but are moot in view of the new ground(s) of rejection necessitated by applicant's amendment.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 14-19, 22-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 14 recites the limitation “a connecting conductor” and “a cell” in line 11. There is insufficient antecedent basis for this limitation in the claim. It is not clear if “a connecting conductor” is one of the connecting conductor or a different connecting conductor from one of the connecting conductor and “a cell” is one of the cells or a different cell from one of the cells. Appropriate correction is required. Claims 15-19, and 22-27 are rejected because of their dependency and failure to remove ambiguity of the parent claim.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 15 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. “an embossment” as cited in claims 15 and 16 is not supported by the specification as filed. For the purpose of examination, “an embossment" is interpreted as any object that has a raised/bending portion.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 14 -19, 22, 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oswald (U.S. PG-PUB 2003/0116185) in view of Itoyama et al (U.S.

6,066,796) and in further view of Boeck et al (U.S. 6,582,249) and in evidence of Mukai et al (U.S. 6,676,459).

14. Regarding claim 14, Oswald discloses sealed thin film photovoltaic modules. A thin film photovoltaic device 3 including a plurality of individual photovoltaic cells 8 each connected in series by interconnects 9 (i.e. connecting conductors, Figure 1; paragraph [0028]); (2) two glass substrates 2 and 4 being sealed by a seal 5 on the edge of the glass substrates (Figure 1; paragraph [0028]); and (3) a chamber 13 being formed between two substrates 2/4 and the seal 5 (Figure 1; paragraph [0028]) wherein the chamber can be evacuated or at a partial vacuum (paragraph [0026]).

Oswald indicates that the connector 12 are for connecting the module to a device that will use the electric current generated by the module (paragraph [0028]), but fails to teach an external terminal to utilize the electric current generated by the module. However, Itoyama et al disclose a solar cell module having a terminal. The terminal (i.e. an external connector terminal) includes an in-cable wire 809 that is completely outside of the solar element 801(1.e. an external connector, Figure 8B), a sealant material 811 that is located on one side of the solar module (i.e. a block of insulating material, Figure 8B), and a copper foil 808 that is connected to the solar element 801 through the filler area 807 (i.e. a blade conductor, Figure 8B, col. 8, line 28-30). Itoyama indicates that the terminal is used to extract power generated by solar cells (col. 2, line 15-20). Therefore, it would be obvious for one having ordinary skill in the art to include a terminal as suggested by Itoyama in the solar module of Oswald in order to extract power generated by solar cell for external usage.

Oswald/Itoyama discloses the claimed invention, except that the connection between the copper foil of the terminal and the solar element is formed by a soldering portion 810 (Figure 8B; col. 8, line 9 of Itoyama). Boeck et al disclose an apparatus for contacting foil conductors of a solar cell and teach that a solar cell module 40 has two foil conductor 41 (Figure 6; col. 5, line 26-30) that are contacted by means of the clamping spring (i.e. a bending portion, Figure 6; col. 5, line 2-5). Boeck shows that utilizing spring effects to contact foil conductor to the solar module is an equivalent connection of soldering them. Therefore, one having ordinary skill in the art would have found it obvious to substitute spring connection for soldering connection because they are art-recognized equivalent. Furthermore, Boeck also teaches that the terminal housing 3 can be glued to the solar module 40 (col. 5, line 1-2). Moreover, regardless the pressure within the chamber, the connection under spring effect would be achieved between the copper foil and the solar element.

15. Regarding claims 15, 16, and 27, the foil conductor 41 of Boeck has a bending porting to achieve spring connections (Figure 6; col. 5, line 2-5), reads on the instant claims.

16. Regarding claims 17 and 18, although Oswald/Itoyama specifies the material of the connections to the solar cell and the copper foil that is connected to the solar cell, it is well known in the art that conductors for solar cell can be a foil member and the foil member is selected from cooper foil, tined copper foil as is evident by the teaching of Mukai et al (col. 4, line 40-43).

17. Regarding claim 19, with respect to the required thickness and width, one having ordinary skill in the art would have found obvious to optimize the dimension of the metal blade for suitable size and shape in order to fit in the solar cell module. Furthermore, it is also evident by the teaching of Mukai that the foil member has a thickness of not less than 0.1 mm nor more than 3 mm (col. 4, line 45-46).

18. Regarding claim 22, the in-cable wire 809 is a copper wire (col. 8, line 9 of Itoyama) within the sealant material 811 that is silicone sealant (i.e. a polymer, col. 7, line 56-57 of Itoyama), reads on the instant claim.

19. Regarding claim 24, although Itoyama teaches a copper foil which appears to be in a straight form *Figure 8B), one L-shaped connector is a matter of choice which one having ordinary skill in the art would have found obvious absent persuasive evidence that the configuration of the connector is significant (see. MPEP 2144).

20. Regarding claim 26, Itoyama teaches that a copper foil is used as a connector member which is flexible and the in-cable wire is connected to the cooper foil through the hole 804 (Figure 8B & 8C, col. 8, line 6-9).

21. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oswald (U.S. PG-PUB 2003/0116185) and Itoyama et al (U.S. 6,066,796) and Boeck et al (U.S. 6,582,249) as applied to claim14 above, and further in view of Shima et al (U.S. 4,880,401).

22. Regarding claim 23, Oswald/Itoyama/Boeck fail to teach a connector comprising a male and female parts of flat connector. However, Shima et al disclose an electric female connector piece comprising a pin-shaped electric connector piece M of a male

connector (Figure 2; col. 3, line 18-19) and an elongated contact piece 15 of female connector (Figure 2; col. 3, line 29). The male connector M is inserted into the female connector 15 through an opening 11a on the insulating casing 11 (col. 3, line 15-24). Therefore, it would be obvious for one having ordinary skill in the art to utilize the connector as taught by Shima in the module of Oswald/Itoyama/Boeck in order to achieve an easy and quick connection.

23. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oswald (U.S. PG-PUB 2003/0116185) and Itoyama et al (U.S. 6,066,796) and Boeck et al (U.S. 6,582,249) as applied to claim14 above, and further in view of Brandt et al (U.S. 3,721,948).

24. Regarding claim 25, Oswald/Itoyama/Boeck fails to teach a block insulating material comprising two glass substrates surrounding several conductors separated by glass blades. However, Brandt et al disclose a terminal assembly. The assembly comprises a plurality of conductor pins or leads 4, 5, and 6 (Figure 1; col. 2, line 33-34). Each of terminal 4, 5, and 6 is spaced apart by electrically insulating sleeves 16 (Figure 2 & 3; col. 3, line 26-29) and terminals (4, 5, and 6) and sleeves 16 are enclosed in a tubular member 18 (Figure 2 &3; col. 3, line 40-43) that is made of resin (col. 4, line 1-3). As indicated in the reference, the terminals are secured to the body by means of glass beads 14 (col. 2, line 47-50). As is evident, glass is well known in the art as an insulating material (col. 2, line 47-50). Although the terminal assembly of Brandt is enclosed in a tubular member 18 and resin is used as an insulating material for sleeves 16 and tubular member 18, one having ordinary skill in the art would have found

obvious to change the tubular-shaped enclosure into a box-shaped block and use a glass substrate instead of resin as insulating material in order to accommodate the intended use of the system of Oswald/Itoyama/Boeck

. ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuyu Tai whose telephone number is 571-270-1855. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X. T./
Examiner, Art Unit 1795

6/22/2009

/Alexa D. Neckel/
Supervisory Patent Examiner, Art Unit 1795